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EXAMINER

EOFF, ANCA

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1795

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/533,387

Applicant(s)

HJELMROTH ET AL.

Examiner

ANCA EOFF

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) 18-32 and 42-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 33-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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DETAILED ACTION

1. Claims 1-17 and 33-40 are pending in the application. Claims 18-32 and 42-51 are withdrawn. Claim 41 is canceled.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 15, 2008 has been entered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 4-14, 16, 33-36 and 38-39 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Matzinger et al. (US Patent 6,376,611).

With regard to claims 1 and 9, Matzinger et al. disclose an ink composition comprising one or more hybrid polymers (abstract), such as an acrylamide/acrylic acid polymer (column 5, lines 12-13). The ink is applied on a substrate (column 3, lines 12-13) and should dry quickly onto the printed substrate as well as adhere well to said substrate (column 7, lines 4-8).

The ink applied on a substrate of Matzinger et al. is equivalent to the lithographic printing form of the instant application.

Claims 2 and 10 are product-by-process claims. Claims 2 and 10 refer to the amide monomer of the polymer of claims 1 and 9 and introduce the limitation "wherein the amide is made from an amine selected from the group consisting of ammonium, an alkyl amine and a dialkyl amine". The process limitation does not give any patentable weight to the claimed product.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

Since Matzinger et al. disclose an acrylamide/acrylic acid copolymer used as hybrid polymer in the ink composition, it is the examiner's position that the hybrid polymer of Matzinger et al. is identical to the polymer in the instant application. In the alternative, the polymer of the instant application is obvious over the hybrid polymer of Matzinger et al.

With regard to claims 4 and 11, Matzinger et al. further disclose that the hybrid polymer may be an acrylamide/acrylic acid copolymer

With regard to claims 5, 12, 34-35 and 38-39, Matzinger et al. further disclose that the preferred polymers in the ink composition have weight average molecular weights in the range of 500 to 250,000 g/mol (column 5, lines 29-30).

With regard to claims 6-7 and 13-14, Matzinger et al. further disclose that the ink composition comprises 0.1 to 30 wt.% of a dye/coloring agent (column 4, lines 41-42). Fine particles of metal or metal oxide, such as titania may be included as colorants in the composition (column 4, lines 43-47).

With regard to claims 8, 16, 33 and 36, Matzinger et al. further disclose that the ink composition can be applied to substrates such as aluminum or metal (column 7, lines 29-32).

5. Claims 1-2, 4-6, 8-13, 16, 33 and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Aurenty et al. (US Patent 6,472,054).

With regard to claims 1-2 and 9-10, Aurenty et al. disclose that a printing plate is prepared by a method comprising:

- providing a substrate, and
- applying by ink jetting to the substrate a fluid composition comprising an acidic polymeric compound, in which acid groups of the acidic polymeric compound are at least partially neutralized with a base (abstract).

The base used for neutralization may be an amine or ammonia (column 5, lines 52-55) so the neutralization of at least a portion of the acidic groups of a polymer with

ammonia is equivalent to the formation of amide groups of the instant application, as disclosed on page 4, line 14 of the specification.

Aurenty et al. further disclose that after application of the fluid composition by ink jetting, the substrate is dried and an ink receptive layer is formed in the desired image on the surface of the substrate (column 5, line 65-column 6, line 3).

With regard to claims 4-5 and 11-12, Aurenty et al. disclose that the acidic polymeric compounds are prepared from at least one monomer selected from the group selected from the group consisting of acrylic acid, methacrylic acid, maleic acid, maleic acid anhydride, fumaric acid, fumaric anhydride, sulfonated styrene (column 2, lines 46-51). In Example 1, Aurenty et al. specifically disclose a styrene-acrylic acid copolymer having a weight average molecular weight of 8,500 (column 7, line 67-column 8, line 1).

With regard to claims 6 and 13, Aurenty et al. further disclose that the fluid composition/ink comprises 0.3 wt% of a surfactant SURFYNOL (column 8, lines 8-9).

With regard to claims 8, 16, 33 and 36, Aurenty et al. further disclose that the substrate is aluminum (column 3, lines 48-50).

6. Claim 3 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Aurenty et al. (US Patent 6,472,054).

Claims 3 is a product-by-process claim. Claim 3 refers to the dried and hardened ink of claim 1 and introduces the limitation "wherein the ink is baked ink" but this limitation does not give any patentable weight to the claimed product.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of

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production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

Since Aurenty et al. disclose dried and hardened ink comprising a polymer with acid group wherein at least one of said groups has been neutralized with a base, such as an amine or ammonia (column 5, lines 52-55), it is the examiner's position that the dried and hardened ink of Aurenty et al. is identical to dried and hardened ink obtained by baking of the instant application.

7. Claims 1-6, 9-13, 15, 17 and 33-40 are rejected under 35 U.S.C. 102(b) as anticipated Cottrell et al. (WO 00/29493).

With regard to claims 1-2, 4 and 9-11, Cottrell et al. disclose a process of preparing a patterned acrylic film on a substrate, said process comprising a step of applying to a substrate by an ink-jetting printing process a mixture comprising one or more crosslinkable, thermally ink-jettable precursor(s) for one or more crosslinked acrylic polymer(s) (page 4, lines 27-33), said mixture being equivalent to the ink of the instant application.

The precursors for the acrylic polymers are obtained by polymerization of one or more unsaturated monomer(s) having water dispersing groups, optionally with one or more monomer(s) free from water dispersing group(s) (page 6, lines 16-20 and page 9, lines 17-21).

A preferred water dispersing group is a carboxylic acid group (page 8, lines 13-15) and examples of monomers with water dispersing groups are acrylic acid, methacrylic acid, fumaric acid (page 10, lines 17-18).

Cottrell further disclose that the acid groups may be fully or partially neutralized with bases, such as ammonia or amines (triethylamine, triethanolamine) (page 8, lines 20-28). The partial neutralization of the acidic groups of a polymer of Cottrell et al. with ammonia or amines is equivalent to the formation of amide groups of the instant application, as disclosed on page 4, line 14 of the specification.

The substrate having a patterned acrylic polymer wherein the acrylic polymer is neutralized with a base, such as ammonia or amines has the same structure as the lithographic printing form of the instant application so it can be used as such.

With regard to claim 3 and 17, Cottrell et al. further disclose that the mixture comprising precursor(s) for acrylic polymer(s) applied to the substrate is cured to form a patterned film coating on the substrate (page 4, lines 37-38). The cured mixture is equivalent to the baked ink of the instant application.

With regard to claims 5, 12, 34-35 and 38-39, Cottrell et al. disclose that the precursor has a weight average molecular weight (Mw) less than 200,000 (page 5, lines 10-11) and further disclose that optimization of the molecular weight and acid content are important to achieve operability of the precursor in a thermal inkjet printing head (page 7, lines 5-6).

With regard to claims 6 and 13, Cottrell et al. disclose that the mixture comprises 2-8 parts by weight of a colorant (page 19, line 13).

With regard to claims 33 and 36, Cottrell et al. disclose that the substrate is preferably metal (page 21, lines 13-14).

With regard to claims 15, 37 and 40, Cottrell et al. further disclose that the mixture comprising precursor(s) for acrylic polymer(s) applied to the substrate is cured to form a patterned film coating on the substrate (page 4, lines 37-38). The curing process is preferably carried out at a temperature between 100°C and 250°C, more preferably between 120°C and 240°C and especially between 150°C and 230°C. The films are cured for about 1 to 60 minutes, preferably between 5 and 45 minutes (page 15, lines 8-11).

Response to Arguments

8. Applicant's arguments filed on April 15, 2008 with regard to the rejection of claims 1-2, 4-14, 16, 33-36, 38 and 39 under 35 USC 102(e) over Matzinger et al. have been fully considered but they are not persuasive.

On page 11 of the Remarks, the applicant states that claims 1 and 9 have been amended to more particularly describe the invention and notes that support for the amendment is found on page 1, lines 4-8 and page 3, lines 27-page 4, line 11 of the specification. On page 12 of the Remarks, the applicant shows that Matzinger does not anticipate or renders obvious the amended claims 1 and 9 of the instant application, since Matzinger teaches "hot melt inks" and does not teach or suggest a lithographic printing form comprising a substrate and ink.

The examiner maintains the position that, while the inks of Matzinger et al. are indeed "hot melt inks", they comprise the same compounds as the inks of the instant application (acrylamide/acrylic acid polymers, dyes/coloring agents, waxes—column 3, line 59, column 3, line 64 and column 5, lines 12-13) and they are applied to substrates such as aluminum or metal (column 7, lines 29-32), same as the inks of the instant application.

Matzinger et al. further disclose that the substrates having the inks applied thereof are dried (column 1, line 51 and column 7, lines 4-5) and the ink adheres to the substrate (column 1, lines 51-52 and column 7, lines 4-8).

Therefore, the substrate having the ink deposited thereon of Matzinger et al. is equivalent to the lithographic printing form of the instant application, since it has the same structure (an aluminum or metal substrate having a dried and hardened ink layer deposited thereon, wherein the ink comprises an acrylic acid/acrylamide polymer) and it is made in a similar way (application of ink followed by drying).

9. Applicant's arguments filed on April 15, 2008, with respect to the rejection of claims 1-4, 6, 8-11, 13, 15-17, 33, 36, 37 and 40 under 35 USC 103(a) over Frenkel (WO 01/34394) in view of Zou et al. (US Patent 5,981,625) and Hansen et al. (US Patent 4,598,118) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection are shown above in paragraphs 5-7 of the Office Action.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure :

Nakazawa et al. (US Pg-Pub 2002/0023566) disclose a computer-to-cylinder printing method, said method comprising a step of forming an image directly onto the printing plate material by ejecting an oil-based ink from a recording head (abstract). The oil-based inkjet ink may comprise an acrylamide copolymer or a methacrylamide copolymer (par.0139). The image formed by the oil-based ink is strengthened by heating (par.0179).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANCA EOFF whose telephone number is (571)272-9810. The examiner can normally be reached on Monday-Friday, 6:30 AM-4:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. E./

Examiner, Art Unit 1795

/Cynthia H Kelly/

Supervisory Patent Examiner, Art Unit 1795